METHOD AND APPARATUS FOR RECOVERING DEPTH USING MULTI-PLANE STEREO AND SPATIAL PROPAGATION

Abstract of the Disclosure

5

An image processing system recovers 3-D depth information for pixels of a base image representing a view of a scene. The system detects a plurality of pixels in a base image that represents a first view of a scene. The system the determines 3-D depth of the plurality of pixels in the base image by matching correspondence to a

10 plurality of pixels in a plurality of images representing a plurality of views of the scene. The system then traces pixels in a virtual piecewise continuous depth surface by spatial propagation starting from the detected pixels in the base image by using the matching and corresponding plurality of pixels in the plurality of images to create the virtual piecewise continuous depth surface viewed from the base image, each successfully

15 traced pixel being associated with a depth in the scene viewed from the base image.